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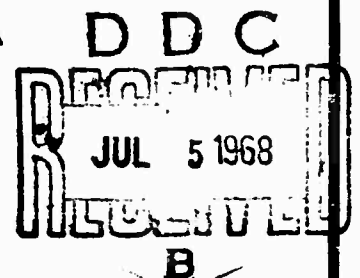
FOREIGN TECHNOLOGY DIVISION



SLOTTED WAVE-GUIDE ANTENNA ARRAY

by

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UNEDITED ROUGH DRAFT TRANSLATION

SLOTTED WAVE-GUIDE ANTENNA ARRAY

By: G. A. Yevstropov

English Pages: 3

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VOLNOVODNO-SHCHELEVAYA ANTENNAYA RESHETKA

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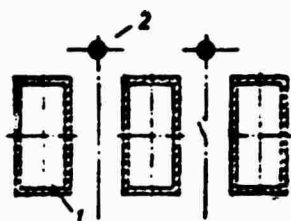
ABSTRACT: The proposed antenna consists of a waveguide array with oblique slots. To decrease mutual effects and increase the permissible distance between the radiators, metal strings are placed between the adjacent waveguides parallel to their longitudinal axes. Orig. art. has: 1 figure. English Translation: 2 pages.

SLOTTED WAVE-GUIDE ANTENNA ARRAY

G. A. Yevstropov

The known cophasal antenna arrays and the slotted wave-guide antenna arrays as well do not have a high degree of bypass between the elements and do not assure a sharply directionally diagram of radiation with great distances between the neighboring elements.

The proposed slotted wave-guide antenna array is distinguished from the known ones by the fact that between the neighboring wave guides and parallel to their longitudinal axes there are located metallic strings, which makes possible a reduction in the mutual influence and an increase in the allowable distance between the emitters.



In the drawing there is portrayed the proposed slotted wave-guide antenna array, in which between the wave-guides 1 there are set the metallic strings 2 of the diameter of 0.05 of the length of the

wave in free space with a distance from the emitting sides of the wave-guide 1 of the order of 0.125 of the length of the wave. In this case the metallic strings 2 play the role of passive emitters analogously to the passive emitters in the antenna

Yuda-Yagi. The diagram of directionality narrows and raises the bypass between the wave-guides, also increasing the distance between them. With the setting in of the metallic strings the coefficient of amplification of the antenna rose by a factor of more than two from the lowering of the level of the lateral lobes.

The metallic strings can be used in almost all known antennas built for the purpose of improving the characteristics and parameters of the antennas made of wave-guides with inclined slots.

Object of the Invention

A slotted wave-guide antenna array consisting of wave-guides arranged in a row, the wave-guides having inclined slots, which has the distinguishing feature that for the purpose of decreasing the mutual influence and increasing the permissible distance between the emitters, between the neighboring wave-guides and parallel to their longitudinal axes there are located metallic strings.

U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

Block	Italic	Transliteration	Block	Italic	Transliteration
А а	<i>А а</i>	A, a	Р р	<i>Р р</i>	R, r
Б б	<i>Б б</i>	B, b	С с	<i>С с</i>	S, s
В в	<i>В в</i>	V, v	Т т	<i>Т т</i>	T, t
Г г	<i>Г г</i>	G, g	У у	<i>У у</i>	U, u
Д д	<i>Д д</i>	D, d	Ф ф	<i>Ф ф</i>	F, f
Е е	<i>Е е</i>	Ye, ye; E, e*	Х х	<i>Х х</i>	Kh, kh
Ж ж	<i>Ж ж</i>	Zh, zh	Ц ц	<i>Ц ц</i>	Ts, ts
З з	<i>З з</i>	Z, z	Ч ч	<i>Ч ч</i>	Ch, ch
И и	<i>И и</i>	I, i	Ш ш	<i>Ш ш</i>	Sh, sh
Й й	<i>Й й</i>	Y, y	Щ щ	<i>Щ щ</i>	Shch, shch
К к	<i>К к</i>	K, k	Ъ ъ	<i>Ъ ъ</i>	"
Л л	<i>Л л</i>	L, l	Ы ы	<i>Ы ы</i>	Y, y
М м	<i>М м</i>	M, m	Ь ь	<i>Ь ь</i>	'
Н н	<i>Н н</i>	N, n	Э э	<i>Э э</i>	E, e
О о	<i>О о</i>	O, o	Ю ю	<i>Ю ю</i>	Yu, yu
П п	<i>П п</i>	P, p	Я я	<i>Я я</i>	Ya, ya

* ye initially, after vowels, and after ъ, ь; e elsewhere.
 When written as ѣ in Russian, transliterate as yě or ě.
 The use of diacritical marks is preferred, but such marks
 may be omitted when expediency dictates.